

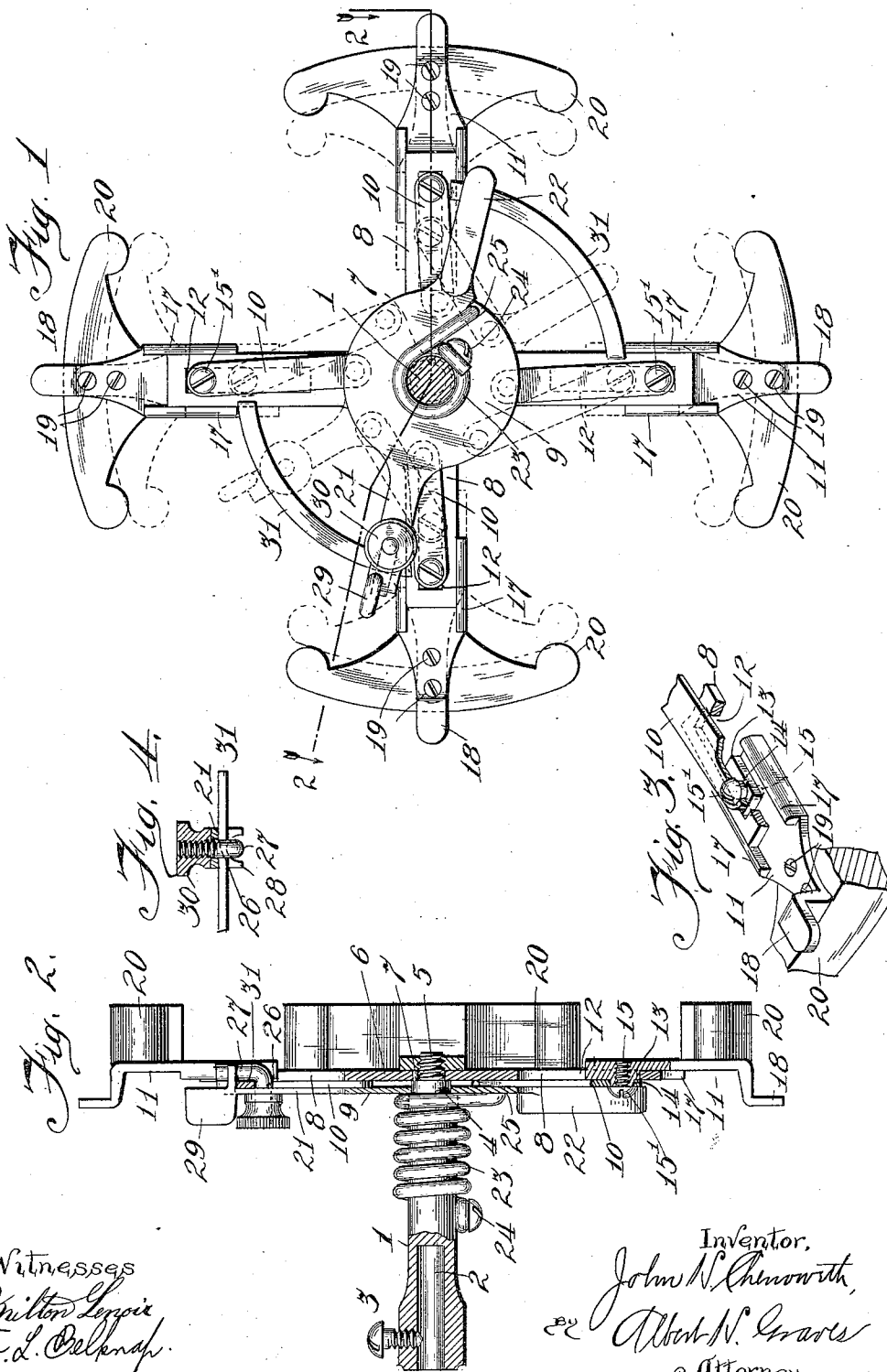
J. H. CHENOWETH.

HAT CHUCK.

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HAT-CHUCK.

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To all whom it may concern:

Be it known that I, JOHN H. CHENOWETH, a citizen of the United States, residing in the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Hat-Chucks, of which the following is a specification.

This invention relates to improvements in hat chucks and refers more particularly to hat chucks of that character used in cleaning, brushing or drying hats and the like.

Among the salient objects of the invention are to provide a construction in which automatically extending gripper arms hold the hat normally upon the chuck without, however, injuring or unduly stretching the former; to provide a construction in which the gripper arms may be adjusted for a hat of any given size by simply shifting or turning a spreader carrying a gripper and operating levers or links; to provide in a construction of the character referred to means for positively locking the gripper arms in any adjusted position; to provide a construction in which the various parts may be readily mounted upon a single shaft or spindle, and as readily removed therefrom if desired; to provide a simple and effective construction which can be manufactured at a low cost; and in general to provide an improved construction of the character referred to.

The invention consists in the matters hereinafter described and more particularly pointed out in the appended claims.

In the drawings Figure 1 is an inside side elevation of the chuck the supporting spindle or shaft being shown however in section. Fig. 2 is a substantially horizontal sectional view taken through the indirect line 2—2 of Fig. 1 and looking in the direction of the arrow. Fig. 3 is a fragmentary perspective view of one of the gripper fingers and associated spreading block. Fig. 4 is a detail sectional view of the locking screw.

Referring to the drawings 1 designates as a whole a supporting shaft or spindle apertured or bored at its inner end as shown at 2 to receive the driving shaft (not shown) to which it may be keyed by a set-screw 3. The outer end of the spindle 1 is provided with a reduced extension 4 and terminates in a screw threaded portion 5. Upon the screw threaded extension 5 is mounted a star shaped spider or support 6 which is

keyed to the spindle 1 by means of a key pin 7. This spider is provided with four outwardly extending arms 8 arranged in right-angled relation relative to each other. Inside of the spider 6 upon the reduced extension 4 of the spindle is movably journaled a wrist plate 9 to which are pivotally connected four links 10, there being one for each of the arms 8 of the spider. Each of these links 10 is adapted to actuate a gripper finger, designated as a whole 11, in the following manner. The outer end of each arm 8 of the spider is slotted as shown at 12 to receive a block 13 provided at its upper side with a journal stud 14. To this stud is pivotally connected the outer end of the corresponding links 10 by means of a screw 15, which extends into a block 13. This screw is provided with an enlarged head 15' in order to confine the link in position upon the stud. The lower end of the screw extends through the block and into the rear end of the corresponding gripper finger 11 as shown. It will thus be seen that the links and gripper fingers are operatively connected together and as the former are actuated in the manner hereinafter described the gripper fingers will be retracted to the position shown in dotted lines in Fig. 1.

In order to guide the fingers in their reciprocatory movements they are each provided at either side with a pair of guide lugs 17 which engage the sides of the arms 8. The outer end of each of these gripper fingers is provided with a right angled head 18 which is adapted to fit around the band of the hat. To the lower face of each finger is also connected by means of screws 19 a spreader block 20 which is curved as shown to conform to the shape of the hat. Describing now the manner of actuating these gripper members the wrist plate 9 is provided at opposite sides with fingers 21, 22 respectively which ride upon curved guide arms 31 supported between adjacent arms 8 of the spider. The finger 22 serves merely as a balancing finger and is accordingly weighted as shown more clearly in Fig. 2. Upon the main spindle 1 is mounted a spring 23, one end of which is secured to the shaft by a screw 24 and the other end of which is fastened in a slot 25 keyed in the outer edge of the wrist plate 9. This spring tends to shift the wrist plate 9 into the position shown in full lines in Fig. 1 and force the

gripper fingers into extended position through the action of the links 10. Near its outer end the finger 21 of the wrist plate 9 is apertured to receive a locking screw 26, the lower end of which terminates in a right angled extension 27 which projects beneath the curved guide plate 31 and is confined between a forked extension 28 of a thumb lever 29 carried by the outer end of the finger 21. The upper end of this locking screw is provided with a thumb nut 30 which serves to draw the angled extension 27 of the latter into locking engagement with the lower side of the arm 23 and thus positively lock the finger 21 of the wrist plate against movement.

From the foregoing it will be seen that the device may be readily adjusted to fit any desired size of hat and then positively locked in its adjusted position by simply turning the thumb screw 30. At the same time the spring 23 will tend to keep the gripper members in operative engagement with the band of the hat. The right angled extensions 18 of the grippers prevent the hat from slipping laterally off the chuck while the spreader blocks prevent excessive strain upon the hat at the points where the latter are engaged by the gripper fingers.

While I have herein shown a preferred embodiment of my invention it is apparent that it may be more or less varied in details of construction without in any manner departing from the spirit thereof.

I claim as my invention:

1. In a hat chuck, the combination with a supporting spindle, of a spider member carried thereby and provided with a plurality of angularly disposed arms, reciprocatory gripper members carried by said arms, a wrist plate movably mounted on said spindle, links operatively connecting the gripper members with the wrist plate whereby the latter may be adjusted to any desired position, a spring tending to force said gripper members outwardly, and means

for positively locking said gripper members in any adjusted position.

2. In a hat chuck, the combination with a main shaft, of a spider connected thereto and provided with outwardly extending arms, a gripper member reciprocable on each arm, a wrist plate pivoted to said shaft and connected with each of said members, a spring tending to rotate said wrist plate to draw the members inwardly, means for moving said wrist plate to carry the members outwardly, and means for locking said wrist plate in adjusted position.

3. In a hat chuck, the combination with a shaft, of a spider frame carried thereon, a gripper member reciprocable on each arm of said spider frame, a wrist plate pivoted on said shaft and connected with each of said members, a torsion spring secured to said shaft and said wrist plate and tending to rotate said wrist plate to draw the members inwardly, means for positively rotating said wrist plate to draw the members inwardly, and means for locking said wrist plate after positive rotation thereof.

4. In a hat chuck, the combination with a shaft, of a spider frame carried thereon, a gripper member reciprocable on each arm of said spider frame, a wrist plate pivoted on said shaft and connected with each of said members, a torsion spring secured to said shaft and said wrist plate and tending to rotate said wrist plate to draw the members inwardly, means for positively rotating said wrist plate to draw the members inwardly, an arm extending from said wrist plate, a segment carried by the spider, and locking mechanism coöperating with said arm and segment to lock said wrist plate after rotation thereof to adjust the gripper members inwardly.

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